REMARKS

Entry of this Amendment and reconsideration are respectfully requested in view of the amendments made to the claims and for the remarks made herein.

Claims 1-8 are pending and stand rejected.

Claims 1-8 stand rejected under 35 USC 103(a) as allegedly being obvious in view of Kim (USP no. 7,189,910).

Applicant respectfully disagrees and explicity traverses the rejection of the clams. The embodiments of the invention described in each of the independent claims 1-8 are not rendered obvious by Kim because Kim fails to disclose a material element recited in the claims.

The present invention, as expressed in claim 1, for example, relates to a method for assigning bandwidth in a GE-PON (Passive Optical Network) comprising an OLT and a plurality of ONUs by assigning a minimum amount of bandwidth to each ONU requesting a bandwidth allocation to satisfy the ONU requirement and then determining and assigning any excessive available bandwidth to the requesting ONUs. However, when the amount of requested bandwidth is greater than the currently available bandwidth, determining new request bandwidths associated with the ONUs upon receiving magnitude and weight information of individual queues from the ONUs and performing bandwidth allocation in proportion to the determined request bandwidths. In addition, the proportionally determined bandwidth is compared to the originally requested bandwidth and the smaller of the two bandwidths is allocated to the ONU.

Kim discloses a method for dynamically allocating bandwidth in an ATM passive optical network (PON), wherein bandwidths are allocated to each of a plurality of ONUs on the basis of information about traffic indicators or connections established to each of the ONUs and about the number of non-real time cells waiting in each of the ONUs. Kim discloses the determination of fixed bandwidth, effective bandwidths, assured bandwidths, maximum bandwidths and dynamic bandwidths as traffic indicators, comparing a sum of fixed bandwidths of all the ONUs with an available link capacity and allocating bandwidth to each of the ONUs proportionally to the effective bandwidths of

the corresponding ONUs if the sum of the fixed bandwidths is larger than the available link capacity or allocating a fixed bandwidth to each of the ONUs and comparing a sum of maximum bandwidths with the available link bandwidth wherein if the sum of the maximum bandwidths is larger than the available bandwidth allocating remaining bandwidth proportionally such that the entire bandwidths is equal to the maximum bandwidths and equally allocating remaining bandwidths to the ONUs by the same amount if the sum of the maximum bandwidths is not larger than the available link capacity. Figure 1 illustrates a flowchart of the process disclosed by Kim for allocation of bandwidth.

Kim further discloses that the fixed bandwidth is set to a sum of peak cell rates of all real-time connections to each of the ONUs, the effective bandwidth is set to a sum of peak cell rates of all constant bit rate connections and sustainable cell rates of all real time connections to each of the ONUs, the maximum bandwidth is set to a sum of peak cell rates of all connections to each of the ONUs and the assured bandwidth is set to a sum of a sum of minimum cell rates of all available bit rate connections and a sum of sustainable cell rates of all non-real time variable bit rate connections to each of the ONUs

Kim accordingly discloses the allocations of a fixed bandwidth to each of the ONUs wherein the fixed bandwidth is determined as "a sum of peak cell rates of all real-time connections." However, the fixed bandwidth allocated by Kim is not comparable to the bandwidth requested by each ONUs as Kim provides for a fixed bandwidth that accommodates a peak rate while the present invention provides for the allocation of bandwidth in accordance with the specific requested bandwidth. Secondly, Kim discloses that if the sum of the fixed bandwidths is larger than a link capacity, the fixed bandwidths are allocated proportionally to the effective bandwidth, with no more than the fixed bandwidth being allocated. Kim, as noted above, defines the effective bandwidth to be "a sum of peak cell rates of all constant bit rate connections and sustainable cell rates of all real time connections." However, proportional allocation of bandwidth does not consider determining the proportional bandwidth allocation based on "magnitude and weight information of individual queues from the ONUs," as is recited in the claims. In fact, Kim is silent with regard to defining or assigning magnitudes and weight characteristics

to the ONU buffers so that requests associated with high priority information or buffers may be assigned proportionally greater bandwidth than requests associated with lower priority information. Thus, the reduction of required bandwidth may be made differently for high priority requests and lower priority requests.

Under U.S. patent law, a claim is not obvious over one or more prior art references unless the prior art references, alone or in combination, teaches all the features recited in the claim or it would be generally known in the art.

Kim fails to render obvious the invention recited in the claims claims as Kim fails to teach all the elements claims (regardless of the failure to disclose a GE-PON) as Kim fails to provide any teaching to determine proportionality values based on the characteristics (magnitude and weight of buffers) of the ONU.

With regard to the remaining claims, these claims are also allowable by virtue of the arguments made with regard to claim 1.

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references and respectfully requests that all the rejections be withdrawn. A Notice of Allowance is respectfully requested.

Respectfully submitted,

CHA & REITER, LLC

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By: Steve S. Cha
Attorney for Applicants

Mail all correspondence to:
CHA & REITER, LLC
210 Route 4 East, #103
Paramus, NJ 07652
Phone: (201) 226-9245
Fax: (201) 226-9246

SC/cag